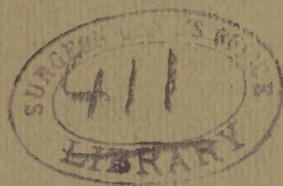


Major (Geo. W.)

Notes on an Interesting Case
of Aneurysm.

BY
GEORGE W. MAJOR, M. D.,
MONTREAL.

REPRINTED FROM
The New York Medical Journal
for October 18, 1890.





NOTES ON
AN INTERESTING CASE OF ANEURYSM.*

BY GEORGE W. MAJOR, M. D.,
MONTREAL.

M. K., male, German, aged thirty-four, while walking in the street was suddenly seized with intense dyspnoea, and as he was in the vicinity of the Montreal General Hospital he made immediate application for relief. Dr. Richard L. MacDonnell, one of the physicians, was in the building at the time and admitted the man into one of his wards. As suffocation was imminent, I was summoned in consultation, and intubation of the larynx was decided upon. When I saw the patient, a few minutes after his arrival, his condition was desperate in the extreme and most painful to witness. He was unable to speak, his face was purple and swollen with blood, and he forced his finger tips into his ears in his efforts to relieve the pressure on the drum heads. I introduced an O'Dwyer tube of large size into the larynx, which afforded sensible but gradual relief. After the severity of the paroxysm had somewhat subsided I withdrew the tube, and succeeded in making a laryngoscopic examination, to which reference shall be made hereafter. When able, the patient stated that he had served in the Franco-Prussian war. He denied ever having had syphilis; had been married seven years; his wife had one child and had not miscarried. He was employed as a storeman, and was in the habit of lifting very heavy weights. He had not suffered from cough or pain in the chest. During the last two months he had several attacks of dyspnoea, but always found relief in the application of mustard. He was a large, well-built man, with a splendid development of chest, covered deeply, however, with a thick layer of fat. The pupils were of equal size, the radial pulses were equal, and there was *no tracheal tugging*.

Physical examination of the chest revealed simply diminished respiration over the left side. No dullness on percussion was at any time established, due, doubtless, to the great thickness of the thoracic walls.

The patient survived six days, and in that time was never quite free from dyspnoea. Intubation and catheterism were practiced twice during

* Read before the American Laryngological Association at its twelfth annual congress.

his residence in hospital, when death appeared imminent, but always with but modified relief. Finally, termination was by syncope. There was no doubt at any time existing in our minds as to the character of the case.

At the autopsy the clinical diagnosis of aneurysm was fully confirmed.

A saccular dilatation in the transverse and descending arch, about the size of a small orange, was found. The left bronchus, which passed immediately behind the sac, was almost obliterated. The rupture occurred at this point of constriction, and a number of nerve fibers connected with the pneumogastric and left recurrent laryngeal nerves were involved in the extravasation. The rupture took place into the posterior mediastinum, and there was secondary hæmorrhage into the stomach. Hæmorrhagic infarction of the pneumogastric, but particularly of the left recurrent, was observed at the post-mortem examination.

From the laryngologist's point of view, this case presents a number of interesting features and suggests a variety of considerations. Intubation did not afford the immediate and complete relief that one would expect in a case of purely glottic obstruction. The laryngoscopic examination showed the left vocal cord fixed at the middle line, left abductor paralysis with adductor spasm. The right vocal cord, though moving through its field, underwent intermittent spasmodic movements; the tendency was, however, decidedly in the direction of adduction. In this particular case the laryngeal image proved of great value as a means not only of assisting in the diagnosis of aneurysm, but also in estimating the part the larynx played in producing the dyspnœa. We might even go further and say that (taking into consideration concomitant circumstances, of course) the image was characteristic of pressure on the left vagus, or, at all events, pointed in that direction. Pressure on the vagus will produce abductor paralysis of the same side with adductor reflex spasm of the laryngeal muscles of the opposite side. In deciding these points, due allowance must be made for the stage of advancement of the aneurysm at the time of examination. If the pressure had been on the left recurrent nerve only, the vocal cord of the left side would have been affected and the dyspnœa would have been intermittent instead of having the permanent character it exhibited. Pressure on one recurrent nerve does not affect phonation and is not likely to give rise to troublesome dyspnœa; but pressure on one vagus, inducing double adductor spasm, as it does, will produce serious results.

I stated a moment ago that the position of the vocal cords depended somewhat on the duration of the disease and on the amount of pressure exerted. I have occasionally observed in the course of an aneurysm that the image so varied from time to time, after a con-

siderable interval, that I was led to doubt the accuracy of a previous delineation in my register. This change is more readily observed in a case of pressure on one recurrent nerve. For instance, in recurrent pressure there may be early in the case some dyspnœa, but rarely any voice affection; on examination, we find the vocal cord on the side of pressure at the middle line—abductor paralysis. Later on the dyspnœa disappears, but the voice is impaired. The laryngoscope shows the cord of the same side at the cadaveric position—complete paralysis; the adductor fibers have become involved. The patient now suffers from phonatory leakage. He can inspire freely enough, but he can not economize his air and is easily put out of breath in consequence; his cough also is difficult; the mechanism of cough is interfered with. At a still later stage the voice may improve; this is the result not of local improvement in the case, but of the compensating action of the vocal cord of the opposite side approaching its fellow to produce vocal effect. The same state of things no doubt may occur in vagus pressure modified by the difference in the conditions. Personally, I have not had an opportunity of following vagus pressure for a sufficiently long period to speak with any authority. The late Professor Elsberg, of New York, formulated a law with the object and intention of explaining these somewhat curious facts. He maintained that “the abductor filaments of the nerve are more prone to be affected than the adductor filaments, and that if in a given case in which both the abductors and adductors are affected, recovery takes place, the adductors are apt to recover first or exclusively and to be affected with abnormal contraction, so that the patient during the progress of recovery is in danger of a dyspnœa which may necessitate a tracheotomy in order to prevent death.” In practice this law has received abundant confirmation, and, in the absence of any satisfactory explanation of a theoretical nature, we can not, I think, do better than accept it.

In the case I report, the laryngeal condition was due either to pressure on the left vagus or to pressure on the recurrents of both sides. In either case great dyspnœa would be present, and in the comparative absence of physical signs it became a nice question of diagnosis. The case was not seen until pressure on the vagus had been set up, but, from the history given by the patient himself, pressure on the left recurrent laryngeal had preceded it for some months. The obstruction offered to the entrance of air into the left lung, and the altogether greater frequency of aneurysmal pressure on the left side, were valuable considerations in arriving at a correct diagnosis.

In the present instance there were no physical signs of any value present excepting the pressure on the left bronchus. The laryngeal indications were therefore paramount, and, when associated with certain collateral indications, a diagnosis was not difficult. In every case of loss or impairment of voice, and in every case of dyspnœa, an expert laryngoscopic examination should be made; it no doubt would often clear up obscure symptoms and enable us to properly estimate their true value. In the course of this case there is no doubt that the attacks of dyspnœa of the greatest severity were the result of pressure exerted by the succession of hæmorrhages that took place. We have no direct proof of this, but we made tolerably certain by intubation that the larynx was not entirely at fault. The question of tracheotomy was raised at different times for the relief of the dyspnœa, but was negatived for the following reasons: In the first place, intubation failed to give the instantaneous relief it should have afforded in a case of purely laryngeal obstruction. In the second place, there was a general absence of the usual signs of laryngeal dyspnœa—for example, the larynx was stationary in the throat; it did not descend during inspiration. There was no supra-sternal depression and no diaphragmatic retraction. The voice was weak, the cough and inspirations were asthenic, and the muscles of the chest were quiescent. The abdominal walls were, however, in a state of great and continued activity, especially during expiration. Had the dyspnœa been of a laryngeal nature I should not have hesitated to perform tracheotomy, not only for the relief of breathing, but also as a means of delaying the rupture of the sac.

I mentioned the absence of *tracheal tugging* in this case, and, as it is a symptom of aneurysm but little known, will say a few words concerning it before closing. Tracheal tugging was first described as a symptom of aneurysm of the arch by Dr. W. S. Oliver* (surgeon-major in H. B. M.'s regular army, retired), of Halifax, Nova Scotia. It has been recognized in the practice of the Montreal General Hospital ever since, but there has seemed to exist some doubt as to the exact way in which the "tugging" is brought about.

When the aneurysmal sac is immediately over the bronchus the direct pressure downward produces this symptom, which is synchronous with the pulse, whereas if the sac is behind or before there is no effect produced. Dr. MacDonnell, Professor of Clinical Medicine in McGill University, first gave me this explanation of the phenomenon, which I have since proved by reference to case reports.

* *Lancet*, September 21, 1878.

To detect this symptom the patient is placed seated upright in a chair with the mouth closed. The trachea is drawn upward by traction on the cricoid, and if "tugging" is felt you can be, in so far as my knowledge and experience goes, pretty certain of an aneurysmal sac pressing downward on the left bronchus.

The autopsy in this case was made by Dr. Wyatt Johnston, pathologist to the hospital, and my short report of the appearances was abstracted from the hospital register.



REASONS WHY

Physicians Should Subscribe

FOR

The New York Medical Journal,

EDITED BY FRANK P. FOSTER, M.D.,¹

Published by D. APPLETON & CO., 1, 3, & 5 Bond St.

1. **BECAUSE** : It is the *LEADING JOURNAL* of America, and contains more reading-matter than any other journal of its class.
2. **BECAUSE** : It is the exponent of the most advanced scientific medical thought.
3. **BECAUSE** : Its contributors are among the most learned medical men of this country.
4. **BECAUSE** : Its "Original Articles" are the results of scientific observation and research, and are of infinite practical value to the general practitioner.
5. **BECAUSE** : The "Reports on the Progress of Medicine," which are published from time to time, contain the most recent discoveries in the various departments of medicine, and are written by practitioners especially qualified for the purpose.
6. **BECAUSE** : The column devoted in each number to "Therapeutic Notes" contains a *résumé* of the practical application of the most recent therapeutic novelties.
7. **BECAUSE** : The Society Proceedings, of which each number contains one or more, are reports of the practical experience of prominent physicians who thus give to the profession the results of certain modes of treatment in given cases.
8. **BECAUSE** : The Editorial Columns are controlled only by the desire to promote the welfare, honor, and advancement of the science of medicine, as viewed from a standpoint looking to the best interests of the profession.
9. **BECAUSE** : Nothing is admitted to its columns that has not some bearing on medicine, or is not possessed of some practical value.
10. **BECAUSE** : It is published solely in the interests of medicine, and for the upholding of the elevated position occupied by the profession of America.

Subscription Price, \$5.00 per Annum. Volumes begin in January and July.

